> This Raw Listing contains the General
> Information Section and those Sequences
> containing ERRORS.   Does Not Comply
>   Corrected Diskette Needed

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 1   <110> Evans, Ronald M.
 2         Chen, J. Don
 3   <120> A FAMILY OF TRANSCRIPTIONAL
 4         CO-REPRESSORS THAT INTERACT WITH NUCLEAR HORMONE RECEPTORS
 5         AND USES THEREFOR
 6   <130> SALK1510-3
 7   <150> 09/337,384
 8   <151> 1999-06-21
 9   <150> 08/522,726
10   <151> 1995-09-01
11   <160> 11
12   <170> FastSEQ for Windows Version 4.0
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ERRORED SEQUENCES FOLLOW

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       13   <210> 6
E-->   14   <211> 8388
       15   <212> DNA
       16   <213> Mus musculus
       17   <220>
       18   <221> CDS
       19   <222> (626)...(8047)
       20   <221> misc_feature
       21   <222> (1)...(8388)
       22   <223> n = A,T,C or G
       23   <400> 6
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W-->   25        taattttcca gggggtacct acacccaaga catatggttc tcaagaggna ctcagcatat  120
       26        cactttgatt ccagagaagc tacaaaagtc attaccaaac tccaggctgg aaagcagtgc  180
       27        tcatactaaa tatttaaaca tttaaagacc tgattaagag acatcaaagg ctttatacca  240
       28        ggggcacacc aacagagaca ggctttttca aggataattt atgtctgccc attgtcttct  300
       29        ggcttaggag acatagaggg aaacatcacc taggaaaacc agtaaccaat gtgtaccatc  360
       30        caggagttat tctatgacaa aaccaaaagt tttgttcttg tgtacttctc tgtgcaccat  420
       31        ctttctatat ctatttagaa aacaaaacaa attttggtaa cacgcttgtg tataaagagc  480
       32        aggacagcgg tgtcacagat caacctagaa agtaattatt taacgagtaa atgactcata  540
       33        taggacaagg caagctgtga ctttcaacct gttctgtctc gtgccgaatt cggcacgagc  600
       34        caaagcctac ctggacccta ccacc atg tca gga tcc aca cag cct gtg gca   652
       35                                    Met Ser Gly Ser Thr Gln Pro Val Ala
       36                                     1               5
       37        cag aca tgg cgg gct gct gag ccc cgc tac cca ccc cat ggc atc tcc   700
       38        Gln Thr Trp Arg Ala Ala Glu Pro Arg Tyr Pro Pro His Gly Ile Ser
       39         10              15              20              25
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40        tac ccg gtg cag ata gcc cgg tcc cac acg gac gtg ggg ctg ctt gag        748
41        Tyr Pro Val Gln Ile Ala Arg Ser His Thr Asp Val Gly Leu Leu Glu
42                         30                  35                  40
43        tac caa cac cac ccc cgt gac tac acc tca cac ctg tca ccc ggt tcc        796
44        Tyr Gln His His Pro Arg Asp Tyr Thr Ser His Leu Ser Pro Gly Ser
45                         45                  50                  55
46        atc atc cag cca cag agg agg cgg ccc tca ctg ctg tca gag ttc cag        844
47        Ile Ile Gln Pro Gln Arg Arg Arg Pro Ser Leu Leu Ser Glu Phe Gln
48                         60                  65                  70
49        cct ggg agt gaa cgg tct cag gag ctc cac ctg cgc cct gag tcc cgc        892
50        Pro Gly Ser Glu Arg Ser Gln Glu Leu His Leu Arg Pro Glu Ser Arg
51                 75                  80                  85
52        acg ttc ctg cct gag ctg ggc aag ccc gac ata gaa ttc acc gag agc        940
53        Thr Phe Leu Pro Glu Leu Gly Lys Pro Asp Ile Glu Phe Thr Glu Ser
54        90                  95                  100                 105
55        aag cgc ccc cgc ctg gag cta cta ccc gat acc ctg ctg cgc cca tca        988
56        Lys Arg Pro Arg Leu Glu Leu Leu Pro Asp Thr Leu Leu Arg Pro Ser
57                         110                 115                 120
58        ccc ctg ctg gcc act ggg cag ccg agt ggg tct gaa gac ctt acc aag        1036
59        Pro Leu Leu Ala Thr Gly Gln Pro Ser Gly Ser Glu Asp Leu Thr Lys
60                         125                 130                 135
61        gac cgt agc ctg gca ggc aag ctg gag cct gtg tca cct ccc agt ccc        1084
62        Asp Arg Ser Leu Ala Gly Lys Leu Glu Pro Val Ser Pro Pro Ser Pro
63                 140                 145                 150
64        ccg cac gct gac cct gag cta gag ctg gcg cca tct cga ctg tcc aag        1132
65        Pro His Ala Asp Pro Glu Leu Glu Leu Ala Pro Ser Arg Leu Ser Lys
66                 155                 160                 165
67        gag gag ctg atc cag aac atg gac cgc gtg gac cgt gag atc acc atg        1180
68        Glu Glu Leu Ile Gln Asn Met Asp Arg Val Asp Arg Glu Ile Thr Met
69        170                 175                 180                 185
70        gta gag cag cag atc tcc aag ctg aag aag aag cag caa cag ttg gag        1228
71        Val Glu Gln Gln Ile Ser Lys Leu Lys Lys Lys Gln Gln Gln Leu Glu
72                         190                 195                 200
73        gag gag gcc gcc aag ccg ccc gaa ccc gag aag cct gtg tcg cca cca        1276
74        Glu Glu Ala Ala Lys Pro Pro Glu Pro Glu Lys Pro Val Ser Pro Pro
75                         205                 210                 215
76        ccc ata gaa tca aag cac cga agc ctg gtc cag atc atc tac gat gag        1324
77        Pro Ile Glu Ser Lys His Arg Ser Leu Val Gln Ile Ile Tyr Asp Glu
78                         220                 225                 230
79        aac cgg aag aaa gcc gaa gcc gca cac cgg atc cta gaa ggc ctg ggg        1372
80        Asn Arg Lys Lys Ala Glu Ala Ala His Arg Ile Leu Glu Gly Leu Gly
81                 235                 240                 245
82        ccc cag gtg gag ctg cct ctg tac aac cag ccg tct gac aca cgc cag        1420
83        Pro Gln Val Glu Leu Pro Leu Tyr Asn Gln Pro Ser Asp Thr Arg Gln
84        250                 255                 260                 265
85        tac cat gaa aac atc aaa ata aac cag gcg atg cgg aag aag ctg atc        1468
86        Tyr His Glu Asn Ile Lys Ile Asn Gln Ala Met Arg Lys Lys Leu Ile
87                         270                 275                 280
88        ttg tac ttt aag cgg agg aac cac gcg cgc aag cag tgg gaa cag cgc        1516
89        Leu Tyr Phe Lys Arg Arg Asn His Ala Arg Lys Gln Trp Glu Gln Arg
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 90                     285                 290                 295
 91      ttc tgc cag cgc tat gac cag ctc atg gag gcg tgg gag aag aag gta      1564
 92      Phe Cys Gln Arg Tyr Asp Gln Leu Met Glu Ala Trp Glu Lys Lys Val
 93                     300                 305                 310
 94      gag cgc ata gag aac aat ccg cga agg agg gcc aag gag agc aag gtg      1612
 95      Glu Arg Ile Glu Asn Asn Pro Arg Arg Arg Ala Lys Glu Ser Lys Val
 96                     315                 320                 325
 97      agg gag tac tac gag aaa cag ttc ccg gag atc cgc aag cag cgg gag      1660
 98      Arg Glu Tyr Tyr Glu Lys Gln Phe Pro Glu Ile Arg Lys Gln Arg Glu
 99      330                 335                 340                 345
100      ctg cag gag cgc atg cag agc agg gtg ggc cag cgt ggc agt ggg ctc      1708
101      Leu Gln Glu Arg Met Gln Ser Arg Val Gly Gln Arg Gly Ser Gly Leu
102                     350                 355                 360
103      tcc atg tcg gct gcc cgc agt gag cat gag gtt tct gag atc att gat      1756
104      Ser Met Ser Ala Ala Arg Ser Glu His Glu Val Ser Glu Ile Ile Asp
105                     365                 370                 375
106      ggc ttg tct gag cag gag aac ctg gag aag cag atg cgc cag ctg gcc      1804
107      Gly Leu Ser Glu Gln Glu Asn Leu Glu Lys Gln Met Arg Gln Leu Ala
108                     380                 385                 390
109      gtg atc ccg ccc atg ttg tac gac gcg gac cag cag agg atc aag ttc      1852
110      Val Ile Pro Pro Met Leu Tyr Asp Ala Asp Gln Gln Arg Ile Lys Phe
111          395                 400                 405
112      atc aac atg aat gga ctc atg gat gac ccc atg aag gtc tac aag gac      1900
113      Ile Asn Met Asn Gly Leu Met Asp Asp Pro Met Lys Val Tyr Lys Asp
114      410                 415                 420                 425
115      cgt cag gtt acc aac atg tgg agc gag cag gag agg gac acc ttc cgt      1948
116      Arg Gln Val Thr Asn Met Trp Ser Glu Gln Glu Arg Asp Thr Phe Arg
117                     430                 435                 440
118      gag aag ttt atg cag cac cct aag aac ttt ggc ctg att gcc tca ttc      1996
119      Glu Lys Phe Met Gln His Pro Lys Asn Phe Gly Leu Ile Ala Ser Phe
120                     445                 450                 455
121      ctg gag aga aag acg gtc gct gag tgt gtc ctc tat tac tac ctg acc      2044
122      Leu Glu Arg Lys Thr Val Ala Glu Cys Val Leu Tyr Tyr Tyr Leu Thr
123                     460                 465                 470
124      aag aag aat gaa aat tac aag agc ttg gtg agg cgg agc tat cgg cgc      2092
125      Lys Lys Asn Glu Asn Tyr Lys Ser Leu Val Arg Arg Ser Tyr Arg Arg
126          475                 480                 485
127      cgt ggc aag agc cag cag cag cag cag cag caa caa cag cag cag cag      2140
128      Arg Gly Lys Ser Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
129      490                 495                 500                 505
130      cag cag atg gca cgg agc agc cag gag gag aag gag gag aag gag aag      2188
131      Gln Gln Met Ala Arg Ser Ser Gln Glu Glu Lys Glu Glu Lys Glu Lys
132                     510                 515                 520
133      gag aag gag gcc gac aag gag gaa gag aag cag gat gcg gag aac gag      2236
134      Glu Lys Glu Ala Asp Lys Glu Glu Glu Lys Gln Asp Ala Glu Asn Glu
135                     525                 530                 535
136      aag gaa gaa ctc agc aag gag aag aca gac gac act tct ggc gag gac      2284
137      Lys Glu Glu Leu Ser Lys Glu Lys Thr Asp Asp Thr Ser Gly Glu Asp
138                     540                 545                 550
139      aac cat gag aaa gag gcc gtg gcc tcc aaa ggc cgc aaa act gcc aac      2332
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140        Asn His Glu Lys Glu Ala Val Ala Ser Lys Gly Arg Lys Thr Ala Asn
141          555               560               565
142        agc caa ggc cgc cgc aaa ggc cgt atc acg cgc tcc atg gcc aac gag        2380
143        Ser Gln Gly Arg Arg Lys Gly Arg Ile Thr Arg Ser Met Ala Asn Glu
144        570               575               580               585
145        gcc aac cat gag gag aca gcc acc cca cag caa agt tca gag ctg gct        2428
146        Ala Asn His Glu Glu Thr Ala Thr Pro Gln Gln Ser Ser Glu Leu Ala
147                      590               595               600
148        tcc atg gag atg aac gag agt tct cgc tgg act gag gaa gag atg gag        2476
149        Ser Met Glu Met Asn Glu Ser Ser Arg Trp Thr Glu Glu Glu Met Glu
150                      605               610               615
151        aca gca aag aaa ggc ctc ctg gaa cat ggg agg aac tgg tca gcc att        2524
152        Thr Ala Lys Lys Gly Leu Leu Glu His Gly Arg Asn Trp Ser Ala Ile
153                      620               625               630
154        gcc cgc atg gtg ggc tcc aag acc gtg tcc cag tgt aag aac ttc tac        2572
155        Ala Arg Met Val Gly Ser Lys Thr Val Ser Gln Cys Lys Asn Phe Tyr
156                      635               640               645
157        ttc aac tac aag aag agg cag aac ctg gac gaa atc ctt cag cag cac        2620
158        Phe Asn Tyr Lys Lys Arg Gln Asn Leu Asp Glu Ile Leu Gln Gln His
159        650               655               660               665
160        aag cta aag atg gag aag gag agg aac gct cgg agg aag aag aag aag        2668
161        Lys Leu Lys Met Glu Lys Glu Arg Asn Ala Arg Arg Lys Lys Lys Lys
162                      670               675               680
163        acc cca gct gcg gcg agc gag gag aca gcc ttc cca cct gcc gct gag        2716
164        Thr Pro Ala Ala Ala Ser Glu Glu Thr Ala Phe Pro Pro Ala Ala Glu
165                      685               690               695
166        gac gaa gag atg gaa gca tca ggc gca agt gcc aat gag gaa gag ctg        2764
167        Asp Glu Glu Met Glu Ala Ser Gly Ala Ser Ala Asn Glu Glu Glu Leu
168                      700               705               710
169        gcg gag gag gca gaa gcc tca cag gcc tct ggg aat gag gtt ccc aga        2812
170        Ala Glu Glu Ala Glu Ala Ser Gln Ala Ser Gly Asn Glu Val Pro Arg
171          715               720               725
172        gtt ggg gag tgc agt ggc cca gct gct gtc aac aac agc tct gat act        2860
173        Val Gly Glu Cys Ser Gly Pro Ala Ala Val Asn Asn Ser Ser Asp Thr
174        730               735               740               745
175        gag agt gtc cca tcc ccg cgt tca gaa gcc atg aag gac act ggg cct        2908
176        Glu Ser Val Pro Ser Pro Arg Ser Glu Ala Met Lys Asp Thr Gly Pro
177                      750               755               760
178        aaa ccc act ggc act gaa gca ttg ccc gct gcc acc cag cca cct gtt        2956
179        Lys Pro Thr Gly Thr Glu Ala Leu Pro Ala Ala Thr Gln Pro Pro Val
180                      765               770               775
181        cct cct cca gaa gaa ccg gca gta gcc cct gct gag ccc tcc cca gtc        3004
182        Pro Pro Pro Glu Glu Pro Ala Val Ala Pro Ala Glu Pro Ser Pro Val
183                      780               785               790
184        cct gat gcc agt ggc cca cca tcc cca gag cct tcc cat cac ctg ccg        3052
185        Pro Asp Ala Ser Gly Pro Pro Ser Pro Glu Pro Ser His His Leu Pro
186        795               800               805
187        cac ccc cgg cta ctg tgg aca agg atg aac aag aag ccc cgg ctg ctc        3100
188        His Pro Arg Leu Leu Trp Thr Arg Met Asn Lys Lys Pro Arg Leu Leu
189        810               815               820               825
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190	cag ctc ccc aga cag agg atg cca agg agc aga agt ctg agg ccg agg	3148
191	Gln Leu Pro Arg Gln Arg Met Pro Arg Ser Arg Ser Leu Arg Pro Arg	
192	830 835 840	
193	aga tcg atg tgg gaa aag cca gag gag ccc gag gcc tct gag gag ccc	3196
194	Arg Ser Met Trp Glu Lys Pro Glu Glu Pro Glu Ala Ser Glu Glu Pro	
195	845 850 855	
196	ccg gag agt gta aag agt gac cac aag gag gag acc gag gaa gag cct	3244
197	Pro Glu Ser Val Lys Ser Asp His Lys Glu Glu Thr Glu Glu Glu Pro	
198	860 865 870	
199	gaa gac aaa gcc aag ggc aca gag gcc att gaa act gtg tct gag gca	3292
200	Glu Asp Lys Ala Lys Gly Thr Glu Ala Ile Glu Thr Val Ser Glu Ala	
201	875 880 885	
202	cca ctt aag gtg gag gag gct ggt agc aag gca gct gtg acc aag ggt	3340
203	Pro Leu Lys Val Glu Glu Ala Gly Ser Lys Ala Ala Val Thr Lys Gly	
204	890 895 900 905	
205	tcc agc tca ggt gcc acc cag gac agt gac ttc agt gcc acc tgc agt	3388
206	Ser Ser Ser Gly Ala Thr Gln Asp Ser Asp Phe Ser Ala Thr Cys Ser	
207	910 915 920	
208	gcc gat gag gtg gac gaa ccc gaa gga ggt gac aag ggc agg ctg ctg	3436
209	Ala Asp Glu Val Asp Glu Pro Glu Gly Gly Asp Lys Gly Arg Leu Leu	
210	925 930 935	
211	tca cca agg ccc agc ctc ctc acc ccg gct gga gat ccc cgg gcc agt	3484
212	Ser Pro Arg Pro Ser Leu Leu Thr Pro Ala Gly Asp Pro Arg Ala Ser	
213	940 945 950	
214	acc tcg ccc cag aag ccg ctg gac ctg aag cag ctg aag cag cga gca	3532
215	Thr Ser Pro Gln Lys Pro Leu Asp Leu Lys Gln Leu Lys Gln Arg Ala	
216	955 960 965	
217	gcc gcc atc ccc cct atc cag gtc acc aag gtc cat gag ccc ccc cgg	3580
218	Ala Ala Ile Pro Pro Ile Gln Val Thr Lys Val His Glu Pro Pro Arg	
219	970 975 980 985	
220	gag gac aca gta ccc cca aag cca gtt ccc cct gtg cct cca ccc acg	3628
221	Glu Asp Thr Val Pro Pro Lys Pro Val Pro Pro Val Pro Pro Thr	
222	990 995 1000	
223	cag cac cta cag cca gag ggt gac gtg tct cag cag tcg gga gga agt	3676
224	Gln His Leu Gln Pro Glu Gly Asp Val Ser Gln Gln Ser Gly Gly Ser	
225	1005 1010 1015	
226	cca cgt ggc aag tcc cgc agc cca gtg cct cct gcc gag aaa gag gca	3724
227	Pro Arg Gly Lys Ser Arg Ser Pro Val Pro Pro Ala Glu Lys Glu Ala	
228	1020 1025 1030	
229	gag aaa ccc gca ttc ttt ccg gct ttc cca act gag ggc cca aag cta	3772
230	Glu Lys Pro Ala Phe Phe Pro Ala Phe Pro Thr Glu Gly Pro Lys Leu	
231	1035 1040 1045	
232	ccg act gag ccc cca cgc tgg tca tcg ggc ctg ccc ttc ccc atc cct	3820
233	Pro Thr Glu Pro Pro Arg Trp Ser Ser Gly Leu Pro Phe Pro Ile Pro	
234	1050 1055 1060 1065	
235	cca cgg gag gtg atc aag act tcc cca cac gcc gct gac ccc tct gcc	3868
236	Pro Arg Glu Val Ile Lys Thr Ser Pro His Ala Ala Asp Pro Ser Ala	
237	1070 1075 1080	
238	ttc tcc tac aca ccc ccc ggt cac ccg ctg cct ctg ggc ctc cac gat	3916
239	Phe Ser Tyr Thr Pro Pro Gly His Pro Leu Pro Leu Gly Leu His Asp	

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240                  1085              1090              1095
241       agt gcc cgg ccc gtc ctg cca cgt ccc ccc atc tct aac ccc cca ccc     3964
242     · Ser Ala Arg Pro Val Leu Pro Arg Pro Pro Ile Ser Asn Pro Pro Pro
243               1100              1105              1110
244       ctc atc tcc tct gcc aag cat ccc ggc gta ctt gag agg cag ctg ggt     4012
245       Leu Ile Ser Ser Ala Lys His Pro Gly Val Leu Glu Arg Gln Leu Gly
246               1115              1120              1125
247       gcc atc tcc cag cag ggg atg tca gtc cag ctt cgt gtg cct cac tca     4060
248       Ala Ile Ser Gln Gln Gly Met Ser Val Gln Leu Arg Val Pro His Ser
249       1130              1135              1140              1145
250       gag cat gcc aag gcc ccc atg ggc cct ctc acc atg ggg ctg ccc ctt     4108
251       Glu His Ala Lys Ala Pro Met Gly Pro Leu Thr Met Gly Leu Pro Leu
252               1150              1155              1160
253       gcc gtg gac cct aag aag ctg ggg aca gca ctg ggc tcc gcc acc agt     4156
254       Ala Val Asp Pro Lys Lys Leu Gly Thr Ala Leu Gly Ser Ala Thr Ser
255               1165              1170              1175
256       gga agc atc acc aag ggc ctc ccc agt acc cgg gct gca gac ggc ccc     4204
257       Gly Ser Ile Thr Lys Gly Leu Pro Ser Thr Arg Ala Ala Asp Gly Pro
258               1180              1185              1190
259       agc tac aga ggc tct atc acc cac ggc acg ccc gca gac gtc ctc tac     4252
260       Ser Tyr Arg Gly Ser Ile Thr His Gly Thr Pro Ala Asp Val Leu Tyr
261       1195              1200              1205
262       aag ggt acc atc agc agg atc gtc ggt gag gac agc cca agt cgc ctt     4300
263       Lys Gly Thr Ile Ser Arg Ile Val Gly Glu Asp Ser Pro Ser Arg Leu
264       1210              1215              1220              1225
265       gac cgg gca cga gag gac acc ctg ccc aag ggc cat gtc atc tat gag     4348
266       Asp Arg Ala Arg Glu Asp Thr Leu Pro Lys Gly His Val Ile Tyr Glu
267               1230              1235              1240
268       ggc aag aaa ggc cac gtc cta tcc tat gaa ggt ggt atg tcc gtg tca     4396
269       Gly Lys Lys Gly His Val Leu Ser Tyr Glu Gly Gly Met Ser Val Ser
270               1245              1250              1255
271       cag tgc tct aag gag gat gga agg agc agc tcg ggc cca ccc cat gag     4444
272       Gln Cys Ser Lys Glu Asp Gly Arg Ser Ser Ser Gly Pro Pro His Glu
273               1260              1265              1270
274       act gcc gcc cct aaa cgc acc tat gac atg atg gag ggc cgt gta ggc     4492
275       Thr Ala Ala Pro Lys Arg Thr Tyr Asp Met Met Glu Gly Arg Val Gly
276               1275              1280              1285
277       agg act gtc acc tca gcc agc ata gag gga ctc atg ggc cgc gcc atc     4540
278       Arg Thr Val Thr Ser Ala Ser Ile Glu Gly Leu Met Gly Arg Ala Ile
279       1290              1295              1300              1305
280       cct gag cag cac agc ccc cac ctc aag gag cag cat cac atc cga ggc     4588
281       Pro Glu Gln His Ser Pro His Leu Lys Glu Gln His His Ile Arg Gly
282               1310              1315              1320
283       tcc atc acg caa ggc atc ccg agg tcc tat gtg gag gcg cag gag gac     4636
284       Ser Ile Thr Gln Gly Ile Pro Arg Ser Tyr Val Glu Ala Gln Glu Asp
285               1325              1330              1335
286       tac tta cgg cgg gag gcc aag ctc ttg aag cga gaa ggg aca cca cca     4684
287       Tyr Leu Arg Arg Glu Ala Lys Leu Leu Lys Arg Glu Gly Thr Pro Pro
288               1340              1345              1350
289       ccc cca cca cca cct cgg gac ctg act gag acc tac aag ccc cgg ccc     4732
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290	Pro	Pro	Pro	Pro	Pro	Arg	Asp	Leu	Thr	Glu	Thr	Tyr	Lys	Pro	Arg	Pro
291		1355				1360				1365						

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292   ctg gac cct ctg ggt ccc ctg aag ctg aag ccg act cac gag ggt gtg      4780
293   Leu Asp Pro Leu Gly Pro Leu Lys Leu Lys Pro Thr His Glu Gly Val
294   1370             1375             1380                 1385
295   gta gca act gtg aag gag gcg ggc cgc tct atc cat gag atc ccg aga      4828
296   Val Ala Thr Val Lys Glu Ala Gly Arg Ser Ile His Glu Ile Pro Arg
297                   1390             1395                 1400
298   gag gag ctg cgc cgc aca cct gag cta ccc ctg gca cca cgg cct ctg      4876
299   Glu Glu Leu Arg Arg Thr Pro Glu Leu Pro Leu Ala Pro Arg Pro Leu
300                   1405             1410                 1415
301   aag gag ggt tcc atc acc cag ggc acc cca ctc aag tac gac tct ggg      4924
302   Lys Glu Gly Ser Ile Thr Gln Gly Thr Pro Leu Lys Tyr Asp Ser Gly
303               1420             1425             1430
304   gca ccc tcc act ggc acc aag aaa cac gac gtg cgc tcc atc atc ggc      4972
305   Ala Pro Ser Thr Gly Thr Lys Lys His Asp Val Arg Ser Ile Ile Gly
306               1435             1440             1445
307   agc ccc ggc cgg cct ttc cct gcc ctg cac ccg ctg gac ata atg gct      5020
308   Ser Pro Gly Arg Pro Phe Pro Ala Leu His Pro Leu Asp Ile Met Ala
309   1450             1455             1460                 1465
310   gac gcc cgg gca ctg gag cgt gcc tgc tat gaa gag agt ctg aag agc      5068
311   Asp Ala Arg Ala Leu Glu Arg Ala Cys Tyr Glu Glu Ser Leu Lys Ser
312                   1470             1475                 1480
313   cgg tca ggg acc agc agt ggt gca ggg ggc tcc atc aca cgt ggg gct      5116
314   Arg Ser Gly Thr Ser Ser Gly Ala Gly Gly Ser Ile Thr Arg Gly Ala
315                   1485             1490                 1495
316   cca gtc gtc gtg cct gaa ctg ggc aag cca cgg caa agc cca ctg act      5164
317   Pro Val Val Val Pro Glu Leu Gly Lys Pro Arg Gln Ser Pro Leu Thr
318               1500             1505             1510
319   tac gaa gac cac ggg gca ccc ttc acc agt cac ctg cca cgt ggc tcc      5212
320   Tyr Glu Asp His Gly Ala Pro Phe Thr Ser His Leu Pro Arg Gly Ser
321               1515             1520             1525
322   cct gtg acc acg agg gag ccc acg cca cgc ctt cag gaa ggc agc ctc      5260
323   Pro Val Thr Thr Arg Glu Pro Thr Pro Arg Leu Gln Glu Gly Ser Leu
324   1530             1535             1540                 1545
325   cta tcc agc aag gcg tcc cag gac cgg aag ctg aca tct aca ccc cgg      5308
326   Leu Ser Ser Lys Ala Ser Gln Asp Arg Lys Leu Thr Ser Thr Pro Arg
327                   1550             1555                 1560
328   gag atc gcc aag tcc cca cac agc act gtg ccc gag cac cac cct cac      5356
329   Glu Ile Ala Lys Ser Pro His Ser Thr Val Pro Glu His His Pro His
330                   1565             1570                 1575
331   ccc atc tcc ccc tat gag cac ttg ctc cgg ggc gtg act ggt gtg gac      5404
332   Pro Ile Ser Pro Tyr Glu His Leu Leu Arg Gly Val Thr Gly Val Asp
333               1580             1585             1590
334   ctg tac cgt ggt cac atc cca ttg gcc ttt gac ccc acc tcc ata ccc      5452
335   Leu Tyr Arg Gly His Ile Pro Leu Ala Phe Asp Pro Thr Ser Ile Pro
336               1595             1600             1605
337   cga ggg atc cct ctg gaa gca gca gcc gca gcc tac tac ctg ccc cgg      5500
338   Arg Gly Ile Pro Leu Glu Ala Ala Ala Ala Ala Tyr Tyr Leu Pro Arg
339   1610             1615             1620                 1625
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340        cac ttg gcc ccc agc ccc acc tac cca cac ctg tac cca cct tac ctc        5548
341        His Leu Ala Pro Ser Pro Thr Tyr Pro His Leu Tyr Pro Pro Tyr Leu
342                       1630              1635                 1640

343        atc cgc ggc tac cct gac acg gcg gcc ctg gag aac cgc cag acc atc        5596
344        Ile Arg Gly Tyr Pro Asp Thr Ala Ala Leu Glu Asn Arg Gln Thr Ile
345                       1645              1650                 1655

346        atc aat gac tac atc acc tcg cag cag atg cac cac aac gct gcc tcc        5644
347        Ile Asn Asp Tyr Ile Thr Ser Gln Gln Met His His Asn Ala Ala Ser
348                       1660              1665                 1670

349        gcc atg gcc cag cgt gct gac atg ctg agg ggt ctg tca ccg cga gag        5692
350        Ala Met Ala Gln Arg Ala Asp Met Leu Arg Gly Leu Ser Pro Arg Glu
351                 1675              1680              1685

352        tcc tcg ctg gcc ctc aat tat gcc gct ggc cca aga ggc att atc gac        5740
353        Ser Ser Leu Ala Leu Asn Tyr Ala Ala Gly Pro Arg Gly Ile Ile Asp
354              1690             1695               1700              1705

355        ctg tcc caa gtg cca cac ctg ccc gtg ctg gtg cca cca acg cca ggc        5788
356        Leu Ser Gln Val Pro His Leu Pro Val Leu Val Pro Pro Thr Pro Gly
357                       1710              1715                 1720

358        acc cct gcc acc gcc atc gac cgc ctt gcc tac ctc ccc act gcg ccc        5836
359        Thr Pro Ala Thr Ala Ile Asp Arg Leu Ala Tyr Leu Pro Thr Ala Pro
360                       1725              1730                 1735

361        cca ccc ttc agc agc cgc cac agt agc tca ccg ctg tcc cca gga ggc        5884
362        Pro Pro Phe Ser Ser Arg His Ser Ser Ser Pro Leu Ser Pro Gly Gly
363                 1740              1745              1750

364        ccc act cac cta gct aaa cca act gcc aca tct tca tcg gag cgg gaa        5932
365        Pro Thr His Leu Ala Lys Pro Thr Ala Thr Ser Ser Ser Glu Arg Glu
366              1755             1760              1765

367        cgg gaa cgt gag cgg gaa cga gac aag tcc atc ctc acg tct acc act        5980
368        Arg Glu Arg Glu Arg Glu Arg Asp Lys Ser Ile Leu Thr Ser Thr Thr
369        1770              1775                 1780                 1785

370        aca gtg gag cat gca ccc atc tgg aga cct ggt acg gag cag agc agc        6028
371        Thr Val Glu His Ala Pro Ile Trp Arg Pro Gly Thr Glu Gln Ser Ser
372                       1790              1795                 1800

373        ggg gct ggg ggc agc agc cgc ccc gcc tcc cac acc cac cag cac tcg        6076
374        Gly Ala Gly Gly Ser Ser Arg Pro Ala Ser His Thr His Gln His Ser
375                 1805              1810              1815

376        ccc atc tcc ccc cgg acc cag gac gcc ttg cag cag agg ccc agt gtg        6124
377        Pro Ile Ser Pro Arg Thr Gln Asp Ala Leu Gln Gln Arg Pro Ser Val
378              1820             1825              1830

379        ctg cac aac acg agc atg aag ggc gtg gtc acc tcc gtg gaa ccc ggc        6172
380        Leu His Asn Thr Ser Met Lys Gly Val Val Thr Ser Val Glu Pro Gly
381           1835              1840              1845

382        acg ccc acg gtc ctg agg tgg gcc agg tcc acc tcc acc tct tcg cct        6220
383        Thr Pro Thr Val Leu Arg Trp Ala Arg Ser Thr Ser Thr Ser Ser Pro
384        1850              1855              1860              1865

385        gtc cgc cca gct gcc aca ttc cca cct gcc acc cac tgc cca ctt ggt        6268
386        Val Arg Pro Ala Ala Thr Phe Pro Pro Ala Thr His Cys Pro Leu Gly
387                 1870              1875              1880

388        ggc acc ctt gaa ggg gtc tac cct acc ctc atg gag ccc gtc ctg tta        6316
389        Gly Thr Leu Glu Gly Val Tyr Pro Thr Leu Met Glu Pro Val Leu Leu
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390                        1885              1890                1895
391       ccc aag gag acc tct cgg gtc gcc cgg ccc gag cgg gcc cgg gtg gac      6364
392       Pro Lys Glu Thr Ser Arg Val Ala Arg Pro Glu Arg Ala Arg Val Asp
393              1900              1905              1910
394       gct ggc cat gcc ttt ctt acc aaa ccc ccg ggc cgg gag ccc gcc tcc      6412
395       Ala Gly His Ala Phe Leu Thr Lys Pro Pro Gly Arg Glu Pro Ala Ser
396           1915              1920              1925
397       tca ccc agc aag agc tcc gag ccc cga tcc cta gca ccc ccc agc tcc      6460
398       Ser Pro Ser Lys Ser Ser Glu Pro Arg Ser Leu Ala Pro Pro Ser Ser
399       1930              1935              1940              1945
400       agc cac aca gcc atc gcc cgc acc cca gca aag aac ctt gca ccc cac      6508
401       Ser His Thr Ala Ile Ala Arg Thr Pro Ala Lys Asn Leu Ala Pro His
402                     1950              1955              1960
403       cat gcc agt ccg gac ccg ccg gcg ccc acc tcg gcc tca gat ctg cac      6556
404       His Ala Ser Pro Asp Pro Pro Ala Pro Thr Ser Ala Ser Asp Leu His
405                  1965              1970              1975
406       cga gaa aag act caa agt aaa ccc ttt tcc atc cag gaa ttg gaa ctc      6604
407       Arg Glu Lys Thr Gln Ser Lys Pro Phe Ser Ile Gln Glu Leu Glu Leu
408              1980              1985              1990
409       cgt tct ctg ggt tac cac agt gga gct ggc tac agc ccc gat ggg gtg      6652
410       Arg Ser Leu Gly Tyr His Ser Gly Ala Gly Tyr Ser Pro Asp Gly Val
411           1995              2000              2005
412       gag ccc atc agc ccg gtg agc tcc ccc agc ctg acc cac gac aag ggg      6700
413       Glu Pro Ile Ser Pro Val Ser Ser Pro Ser Leu Thr His Asp Lys Gly
414       2010              2015              2020              2025
415       ctc tcc aaa cct ctg gaa gag cta gag aag agc cac ttg gaa ggg gag      6748
416       Leu Ser Lys Pro Leu Glu Glu Leu Glu Lys Ser His Leu Glu Gly Glu
417                     2030              2035              2040
418       ctg cgg cac aag cag cca ggc ccc atg aag ctc agc gcg gag gct gcc      6796
419       Leu Arg His Lys Gln Pro Gly Pro Met Lys Leu Ser Ala Glu Ala Ala
420                  2045              2050              2055
421       cat ctc cca cat ctg cgg cca ctg ccc gag agc cag ccc tca tcc agc      6844
422       His Leu Pro His Leu Arg Pro Leu Pro Glu Ser Gln Pro Ser Ser Ser
423              2060              2065              2070
424       cca ctc ctc cag act gcc cca ggc atc aaa ggt cac cag agg gtg gtc      6892
425       Pro Leu Leu Gln Thr Ala Pro Gly Ile Lys Gly His Gln Arg Val Val
426           2075              2080              2085
427       acc ctg gct cag cac atc agc gag gtc att acg cag gac tac acg cgc      6940
428       Thr Leu Ala Gln His Ile Ser Glu Val Ile Thr Gln Asp Tyr Thr Arg
429       2090              2095              2100              2105
430       cac cac ccg cag cag ctc agt ggc ccc ctt ccc gcc cct ctc tac tcc      6988
431       His His Pro Gln Gln Leu Ser Gly Pro Leu Pro Ala Pro Leu Tyr Ser
432                     2110              2115              2120
433       ttt ccc gga gcc agc tgc cct gtc ctg gat ctt cgc cgc cca ccc agt      7036
434       Phe Pro Gly Ala Ser Cys Pro Val Leu Asp Leu Arg Arg Pro Pro Ser
435                  2125              2130              2135
436       gac ctc tac ctc cca ccc ccc gac cat ggc acc cca gcc cgg gga tcc      7084
437       Asp Leu Tyr Leu Pro Pro Pro Asp His Gly Thr Pro Ala Arg Gly Ser
438              2140              2145              2150
439       ccc cac agt gaa ggg ggc aaa agg tcc cca gaa ccc agc aaa aca tcg      7132
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440        Pro His Ser Glu Gly Gly Lys Arg Ser Pro Glu Pro Ser Lys Thr Ser
441             2155              2160              2165
442        gtc ctg ggc agc agc gag gat gcc att gag cct gtg tcc cca cca gag       7180
443        Val Leu Gly Ser Ser Glu Asp Ala Ile Glu Pro Val Ser Pro Pro Glu
444        2170              2175              2180              2185
445        ggc atg act gag cca gga cat gct cgg agc act gcg tac cca ctg ctg       7228
446        Gly Met Thr Glu Pro Gly His Ala Arg Ser Thr Ala Tyr Pro Leu Leu
447                  2190              2195              2200
448        tat cga gac ggg gaa cag ggc gag ccc agg atg ggt cta gag tct cca       7276
449        Tyr Arg Asp Gly Glu Gln Gly Glu Pro Arg Met Gly Leu Glu Ser Pro
450                  2205              2210              2215
451        ggc aac acc agc cag ccg cca acc ttc ttc agt aag ctg act gag agc       7324
452        Gly Asn Thr Ser Gln Pro Pro Thr Phe Phe Ser Lys Leu Thr Glu Ser
453                  2220              2225              2230
454        aac tcc gcc atg gtg aag tcg aag aag cag gag atc aac aag aaa ctc       7372
455        Asn Ser Ala Met Val Lys Ser Lys Lys Gln Glu Ile Asn Lys Lys Leu
456                  2235              2240              2245
457        aac acc cac aac cgg aac gag cca gaa tac aat att ggc cag cct ggg       7420
458        Asn Thr His Asn Arg Asn Glu Pro Glu Tyr Asn Ile Gly Gln Pro Gly
459        2250              2255              2260              2265
460        acg gaa atc ttc aac atg ccc gcc atc act gga gca ggc ctt atg acc       7468
461        Thr Glu Ile Phe Asn Met Pro Ala Ile Thr Gly Ala Gly Leu Met Thr
462                  2270              2275              2280
463        tgt aga agc cag gcg gtg caa gaa cac gcc agc acc aac atg ggg cta       7516
464        Cys Arg Ser Gln Ala Val Gln Glu His Ala Ser Thr Asn Met Gly Leu
465                  2285              2290              2295
466        gag gcc att att aga aag gca ctc atg ggt aaa tat gat cag tgg gaa       7564
467        Glu Ala Ile Ile Arg Lys Ala Leu Met Gly Lys Tyr Asp Gln Trp Glu
468                  2300              2305              2310
469        gag ccc ccg ccg ctc ggc gcc aat gct ttt aac cct ctg aat gcc agc       7612
470        Glu Pro Pro Pro Leu Gly Ala Asn Ala Phe Asn Pro Leu Asn Ala Ser
471             2315              2320              2325
472        gcc agt ctg ccc gct gct gct atg ccc ata acc act gct gac gga cgg       7660
473        Ala Ser Leu Pro Ala Ala Ala Met Pro Ile Thr Thr Ala Asp Gly Arg
474        2330              2335              2340              2345
475        agt gac cac gca ctc acc tcg cca ggt gga ggt ggg aaa gcc aag gtc       7708
476        Ser Asp His Ala Leu Thr Ser Pro Gly Gly Gly Gly Lys Ala Lys Val
477                  2350              2355              2360
478        tct ggc aga cct agc agc cga aaa gcc aag tcg cca gca cca ggc cta       7756
479        Ser Gly Arg Pro Ser Ser Arg Lys Ala Lys Ser Pro Ala Pro Gly Leu
480                  2365              2370              2375
481        gcg tcc gga gac cga ccc cct tct gtc tcc tca gta cac tca gag ggg       7804
482        Ala Ser Gly Asp Arg Pro Pro Ser Val Ser Ser Val His Ser Glu Gly
483             2380              2385              2390
484        gac tgc aat cgc cga aca cca ctc acc aac cgt gtg tgg gag gac cgg       7852
485        Asp Cys Asn Arg Arg Thr Pro Leu Thr Asn Arg Val Trp Glu Asp Arg
486             2395              2400              2405
487        ccc tca tct gca ggg tcc acg cca ttc ccc tac aac cct ttg att atg       7900
488        Pro Ser Ser Ala Gly Ser Thr Pro Phe Pro Tyr Asn Pro Leu Ile Met
489        2410              2415              2420              2425
```

Input Set: **I522753.RAW**

```
          490    agg cta cag gca ggt gtc atg gcc tcc ccg ccc cca cct ggc ctt gcg    7948
          491    Arg Leu Gln Ala Gly Val Met Ala Ser Pro Pro Pro Gly Leu Ala
          492                    2430            2435            2440

          493    gca ggc agc ggg ccc cta gct ggt ccc cac cac gcc tgg gat gag gag    7996
          494    Ala Gly Ser Gly Pro Leu Ala Gly Pro His His Ala Trp Asp Glu Glu
          495                    2445            2450            2455

          496    ccc aag cca ctg ctg tgt tca cag tat gag aca ctc tcg gac agc gag    8044
          497    Pro Lys Pro Leu Leu Cys Ser Gln Tyr Glu Thr Leu Ser Asp Ser Glu
          498                    2460            2465            2470

          499    tga ccacggattg gggggagcg gtgccaggtc ccgcacaagg cagaagcagc    8097
E-->      500        (*)
          501    ccagcatgga gcagacagct gctgactccc gagactgagg aaggagcccc tgagtctgcc    8157
W-->      502    tgcgcgtcca tccgtncgtc gtncactcat ctgtccatcc agagctggca ttctgcctgt    8217
          503    ctaaagcctt aactaagact tccaccccgg gctggccctg cgcagtgacc ttacactcag    8277
W-->      504    gggattgttt accttggtgc tcganaaggg ggagtggaca ggaaggggag ggacaagccg    8337
W-->      505    ggccangagg gggggggaca ancaattcgt gtgtcaagtc gcactcntgc t    8388
```

VERIFICATION SUMMARY
PATENT APPLICATION **US/09/522,753**

Input Set: **I522753.RAW**

Line	?	Error/Warning	Original Text
14	E	Input 8388, Calc# Bases 8389 differ	<211> 8388
25	W	"N" or "Xaa" used: Feature required	taattttcca gggggtacct acacccaaga catatggt
500	E	Number of Bases conflict w/ Running Total	*
500	E	Wrong Nucleic Acid Designator	*
502	W	"N" or "Xaa" used: Feature required	tgcgcgtcca tccgtncgtc gtncactcat ctgtccat
504	W	"N" or "Xaa" used: Feature required	gggattgttt accttggtgc tcganaaggg ggagtgga
505	W	"N" or "Xaa" used: Feature required	ggccangagg gggggggaca ancaattcgt gtgtcaag